

**OVIPOSITION OF *SYMPETRUM* INTO SEA WATER AND OTHER RECORDS OF UNUSUAL DRAGONFLY BEHAVIOUR (ZYGOPTERA: CALOPTERYGIDAE: ANISOPTERA: AESHNIDAE, LIBELLULIDAE)**

Two trustworthy biologists have reported to me their interesting observations, made in summer 1984, which I believe worth to be put on record.

Greece, Mikonos (Cyclades), in two different days and localities, between August 25-28, Gabriele Schino observed several dragonfly tandems (red male and yellowish female) which I presume to be *Sympetrum*, swaying over the sea, while females actually dipped their abdomens into the water. This occurred at 2-10 m from the sandy shore. The rocky bottom was 0.5-2 m deep. In three instances this behaviour was timed at 1:30, 1:30 and 3 min. The island of Mikonos

apparently lacks both water and trees. No fresh water was present within 200 m from the shore. Water was contained in greek cisterns in the nearby island of Dehlos.

Italy, Sardinia, Palau, Capo d'Orso, between September 15-20, Simonetta Di Cave observed about 10 tandem pairs and unaccompanied females of a dragonfly I presume to be *Sympetrum* (red male and greyish female) ovipositing into the sea. Females did actually dip their abdomens in the calm water. The bush started 2 m from the rocky coast landwards. A hundred metres from the oviposition site, a fifty-metres depression in the ground was flooded either by rainfalls or high tide.

At the latter place, Simonetta also observed several males of *Calopteryx haemorrhoidalis* chasing each other while performing what she interpreted to be territorial behaviour. They perched on the low rocks of the shore.

Again, Simonetta observed a male of *Anax imperator* flying along the coast and occasionally touching the sea water in flight. This occurred at Piscinas (Costa Verde), Oristano, Sardinia.

P.S. CORBET (1962. *A biology of dragonflies*. Witherby, London) suggests that dragonflies may be attracted by light reflections from water surfaces, and it is known that females may be duped by shining surfaces, over which they attempt to oviposit (K. MÜLLER, 1937, *Trop. Natuur* 26: 95-98; — C.H. KENNEDY 1938, *Ohio J. Sci.* 38: 267-276; — C. LONGFIELD, 1953, *Ent. mon. Mag.* 89: 97; — A.C. NEVILLE, 1960, *Proc. R. ent. Soc. Lond. (A)* 35: 124-128; — A. SVIHLA, 1961, *Tombo* 4: 18; — 1975, *Tombo* 18: 26). I have often seen dragonflies flying over the sea, nevertheless, I have had no evidence of anyone performing oviposition into the sea water, nor have I heard of this before.

Selection of either marine or still-water habitats as a territorial lek is quite unusual for the rheophile Calopterygidae, yet B. KIAUTA (1963, *Tombo* 6: 25-26) has reported a small population of *Calopteryx virgo*, observed during two successive years at a small, isolated alpine lake, and I myself observed several *C. haemorrhoidalis* at a pond of about 50x25 m (lago Troscia, Grosseto, Toscana) not farther than 50 m from a river (torrente Farma) but well

sheltered in the wood. R. DUNN (1984, *Derbyshire dragonflies*, Derbyshire Nat. Trust) states that *C. splendens* "may be seen feeding at nearby still waters".

The water-touching behaviour of dragonflies has been little investigated so far (e.g. R. HUTCHINSON, 1976, *Cordulia* 2: 11-14; — M. VAN NOORDWIJK, 1980, *Notul. odonatol.* 1: 105; — C. UTZERI, 1982, *Notul. odonatol.* 1: 168) and as far as I know, has not been previously reported at the sea surface.

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